In the Action, the Examiner stated that Japanese Ref. No. 63-27443 included in the Information Disclosure Statement filed June 13, 1994 was not considered because the Information Disclosure Statement did not include a concise explanation of its relevance. The relevance of the document is as follows:

> In the Japanese reference '443, a suction mold is divided into a plurality of chambers, and different suction pressures are developed in the respective chambers. However, suction pressures are simultaneously developed in the chambers. This reference does not disclose therefore the step according to the present invention of developing vacuums in selected ones of the suction chambers at different times to attract the glass sheet successively against the shaping surface.

Applicants respectfully request that the reference be considered as a concise explanation of the relevance has been provided.

The drawings submitted on June 13, 1994 were approved.

The specification was objected to because in claim 5, the recitation "ends of the sheet of glass are pulled away from said ring mold" is not provided for in the specification. In addition, claim 5 was rejected under 35 U.S.C. § 112 for the same reasons. Claim 5 has now been amended and the claim language has been deleted. It is believed that the objection to the specification and the rejection to claim 5 have been overcome.

In addition, claim 5 was objected to as being indefinite as, in line 2, "said curved shaping surfaces" lack antecedent basis and, in line 3, "said side suction chambers" lack antecedent basis.

The suggested language "said curved shaping surface areas" and "said opposite side suction chambers" respectively, have been inserted therefor. It is believed that the rejections under 35 U.S.C. § 112 are traversed.

Claims 1, 2, 4 and 5 were rejected under 35 U.S.C. § 103 as being unpatentable over Seymour in view of Kuster et al, 5,352,263. The Examiner states that Seymour fails to disclose the use of the ring mold, but that Kuster '263 discloses a method for bending glass plates wherein a heated glass sheet is placed on the ring mold in an intermediate section and then the ring mold with the glass plate is moved beneath the suction mold wherein the mold attracts the glass plate by suction and bends the glass plate. The Examiner states that it would have been obvious to one of ordinary skill in the art to provide a ring mold for transferring the heated glass sheet on a suction mold as in Kuster '263 in order to provide an efficient means for removing the heated glass sheet under the bending suction mold. The Examiner further stated that Applicants cannot rely upon the foreign priority papers to overcome the rejection, because a certified translation of said papers has not been made of record. A certified translation of the foreign priority papers is enclosed herewith. In addition, the certificate that the translation is a true and accurate English translation of the foreign priority document is enclosed. Applicants respectfully assert that the rejection over Seymour in view of Kuster is hereby traversed as Kuster '263 is not prior art to the present invention.

Claim 3 was rejected under 35 U.S.C. § 103 as being unpatentable over Seymour in view of Kuster '263 as applied to

claims 1, 2, 4 and 5 above and in further view of Nitschke. In view of the submission of a certified translation of the foreign priority document, and the reasons stated above, Applicants assert that the rejection over Seymour in view of Kuster '263 and further in view of Nitschke has been traversed.

Claims 1, 2, 4 and 5 were rejected under 35 U.S.C. § 103 as being unpatentable over Seymour in view of McMaster. The Examiner states that McMaster discloses a method for bending glass plates wherein a heated glass sheet is placed onto a ring mold and then the ring mold, with the glass plate, is moved beneath a suction mold wherein the mold attracts the glass plate by suction and bends the glass plate. The Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made, to provide a ring mold transferring the heated glass sheet under the suction mold as in McMaster in order to provide for an efficient means for moving the heated glass sheet under the bending suction mold.

Applicants respectively assert that McMaster does not teach the use of a ring mold. Applicants draw Examiner's attention to Column 2, lines 19-28 of McMaster, wherein perceived difficulties with ring molds are discussed and the use of a full-surface mold, as used in McMaster, is discussed. Moreover, in Column 7, line 31 to Column 8, line 2, it is stated that the lower molds (42) and (42') in both embodiments teach a curved mold, rather than a ring mold. Moreover, McMaster discusses gravity forming the glass to substantially follow the shape of the curved mold (42). In addition, the mold (42) of McMaster is moved upward to engage the

sheet of glass and form it, prior to engagement, with the upper station. McMaster does not teach the use of suction to shape a substantially planar sheet of glass.

Claim 1 has now been amended to state that the ring mold is stationary, while the vacuums are successively developed for bending the sheet of glass upward. This is neither taught or suggested by Seymour or McMaster, which have a lower mold or support portion which is moved upward to force the glass and edges of the glass toward the upper forming portion of the devices. In addition, the outer portions of the McMaster and Seymour devices include lower shaping portions which support and shape the sheet of glass. In contrast thereto, the present invention includes a stationary ring mold which does not press the glass upward, but rather remains stationary while the upper suction mold attracts the glass. This provides for successive bending of the glass, which provides a better quality end product with more gradual bends with lower stress and less likelihood of air being trapped in the glass. Applicants assert that claim 1 distinguishes over the McMaster and Seymour references or any combination thereof.

Moreover, claim 4 has now been amended to state that the sheet of glass is a planar sheet of glass rather than a preformed sheet of glass, as accomplished with the McMaster reference. Applicants assert that this is neither taught nor suggested by Seymour or McMaster references and that a better method is obtained which eliminates the preforming as required by McMaster.

In addition, claim 5 claims that opposite side areas of the sheet of glass are bent toward the curved shaping surface areas of

the suction chambers to shape the outer portions of the glass. It is asserted that claim 5 further distinguishes over the references for these reasons as well as those stated above.

New claims 6-9 further distinguish over the McMaster and Seymour references. Claim 6 claims, inter alia, that the opposite side areas of the sheet of glass have been successively and gradually bent from the central to the side area. The present method provides for gradual bending due to the successive steps of developing a vacuum in the central area and then in the side areas. This provides for a more precise and higher quality bend than is provided for with the prior art method. In addition, new claim 7 claims, inter alia, the shaping surfaces comprise a metal or glass cloth covering. This provides for a better shaping surface which prevents suction holds in the shaping surface from leaving marks in the glass when suction is applied. The prior art references neither teach nor suggest such a step. Claim 8 claims that the glass sheet is substantially planar prior to attracting to said suction chambers. As stated above, the McMaster reference requires that the curved mold uses gravity to shape the sheet of glass prior to engaging the upper shaping surface. Claim 9 claims using a ring mold having a center opening below the central flat surface area. This is neither shown nor described by the cited references. Applicants assert that new claims 6-9 patentably distinguish over the Seymour and McMaster references, and any combination thereof.

Claim 3 was rejected under 35 U.S.C. § 103 as being unpatentable over Seymour in view of McMaster and further in view

of Nitschke. Applicants assert that claim 3 is allowable for the reasons stated above.

Claims 1, 2, 4 and 5 were rejected under 35 U.S.C. § 103 as being unpatentable over Seymour in view of Kuster et al, 4,859,225. The Examiner states that Seymour fails to disclose the use of the ring mold and that Kuster '225 discloses a method for bending glass plates wherein a heated glass sheet is placed onto a ring mold and then the ring mold with the glass plate is moved beneath a suction mold wherein the mold attracts the glass plate by suction and bends the glass plate. The Examiner states it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a ring mold for transferring the sheet under the suction as in Kuster '225 to provide for an efficient means for removing the heated glass sheet under the bending suction mold. Applicants assert that the Kuster '225 references does not show a true ring mold, but rather shows a counter-form **109**, as shown in Figure 4. This provides for shaping the glass and is brought into contact with the glass following placement against the upper station. The ring mold of the present invention does not contact the sheet of glass opposite near the central flat area of the upper portion. Applicants assert that the claimed ring mold is not used in the Kuster '225 device. Applicants assert that the contacting of the glass to the lower curving form **109** of the Kuster '225 reference cannot be characterized as a ring mold for supporting a substantially planar sheet of glass. New claim 9 further distinguishes over the Kuster '225 and Seymour references by claiming a ring mold having an open center below the center

surface. This is neither shown nor suggested by any of the cited references. Applicants assert that claims 1-9 are allowable for the reasons stated above, as well as these.

Finally, claim 3 was rejected under 35 U.S.C. § 103 as being unpatentable over Seymour in view of Kuster '225 as applied to claims 1, 2, 4 and 5 and further in view of Nitschke. Applicants assert that claim 3 is allowable for the reasons stated above.

Applicants assert that the claims, as submitted are now in condition for allowance. If the Examiner feels that a telephone interview may be helpful in this matter, please contact Applicants' representative at (612) 336-4728.

Respectfully submitted,

TETSUYA MIZUSUGI ET AL

By their attorneys

MERCHANT, GOULD, SMITH, EDELL,
WELTER & SCHMIDT, P.A.
3100 Norwest Center
90 South Seventh Street
Minneapolis, MN 55402
(612) 336-4728

Dated: October 26, 1995

By: _____
Gregory A. Sebald
Reg. No. 33,280

CERTIFICATE UNDER 37 CFR 1.10:

"Express Mail" mailing label number: TB863681984US

Date of Deposit: October 26, 1995

I hereby certify that this paper or fee is being deposited with the U.S. Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to Assistant Commissioner for Patents, Washington, D.C. 20231.

By: _____
Name: Darrell Whitaker

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